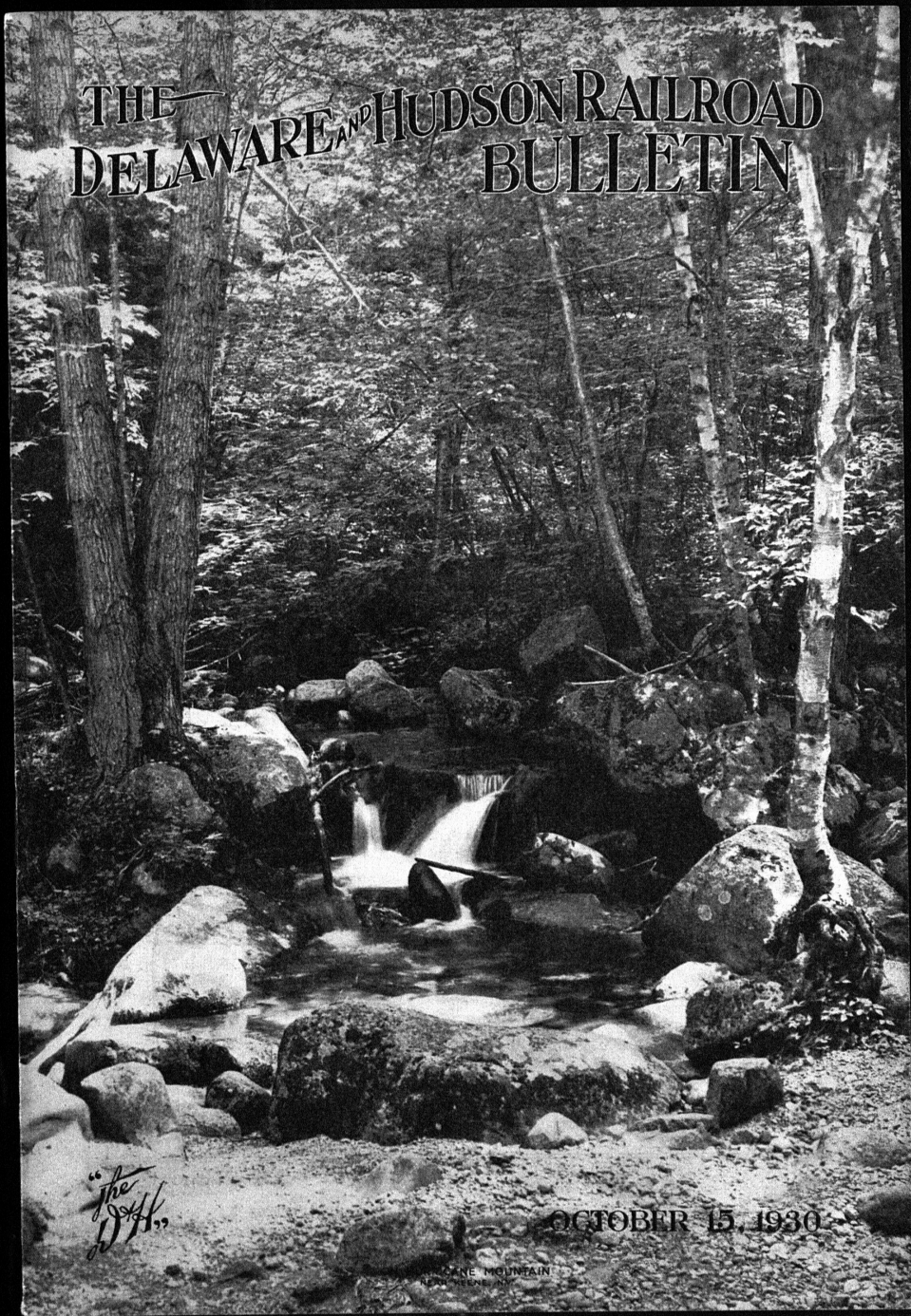

THE DELAWARE AND HUDSON RAILROAD BULLETIN
"The D & H"
OCTOBER 15, 1930
CRANE MOUNTAIN
NEAR KEENE, N.Y.

The Poor Fish

A WISE man went out fishing and to his friend he said: "How foolish are the hungry fish, so eager to be fed; you'd think they'd see this covered hook and see this linen line and learn when boats are overhead it isn't safe to dine. But here we are deceiving them with morsels of delight, and catching them with lures you'd think no fish would ever bite."

Let's read this wise man's history: A stranger came to town and whispered words of flattery which the wise man swallowed down; he praised his business judgment, and then whispered in his ear a proposition which he said would make a million clear. This wise man hurried to the bank, 'twas almost three o'clock, and paid three thousand dollars for some "phony" mining stock.

Hold out to most of us the lure of easy gold to make and paint your promise fair enough, and the bait we'll rush to take. "Something for nothing" —whisper low—and sense and reason fly; we give our hard-earned coins away and later wonder why. The moral I am sure is plain; I'll write it if you wish: There's none of us has any right to criticize a fish!—*Exchange.*

The DELAWARE AND HUDSON RAILROAD CORPORATION
BULLETIN
Vol. 10 Albany, N. Y., October 15, 1930 No. 20

Spent Many Years At Menands

Veteran Agent Also Wiper, Conductor and Yardmaster During Long Term of Service

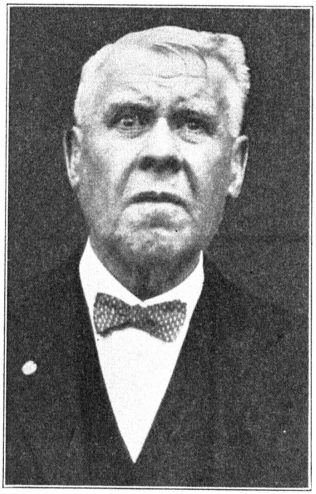
HAD SAMUEL Y. FERGUSON, retired Station Agent, started his railroading career upon the lines of the Delaware and Hudson he would have rounded out over fifty years in the service. As it is, despite an "apprenticeship" of a score of years with the Erie, he completed nearly thirty-four years with our company before retiring in 1923.

MR. FERGUSON is best known to most of us as the former Agent at Menands, N. Y., where he was on duty for the seventeen years immediately preceding his retirement.

Born October 3, 1852, MR. FERGUSON was attracted to railroading at an early age and, as a boy started wiping engines at the roundhouse in Port Jervis. In those days firemen were born, not made. At least, when a spare fireman was required one of the wipers was selected by the foreman of the enginehouse and turned over to the tender care of the engineer who supervised not only the manner in which steam pressure was maintained but the cleaning of the engine cab and all other parts above the running boards.

Melted tallow and "elbow grease" in the proper proportions produced a lustrous finish on the back-head of the boiler as well as on the planished jacket and brass ornamentation.

In this way "FERGY", as his friends call him, was selected one day in 1869, to fire the four-wheel-connected Grant engine which pulled the way freight from Port Jervis. The heavy work of firing proved too much for a person of his then slight build so he went to "braking" and later advanced to the position of conductor. During ing the remainder of his twenty years with the Erie he at one time or another ran on every passenger train on his division, his favorite being the "crack" Wells-Fargo Express train.



SAMUEL Y. FERGUSON

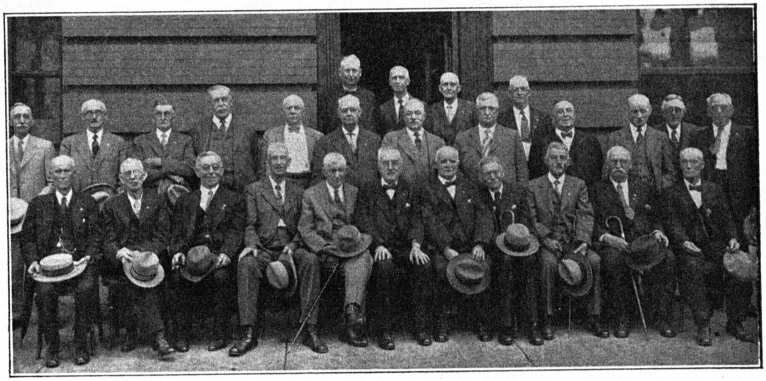
A position as Yardmaster at Kenwood Junction in 1890 was MR. FERGUSON'S first connection with the Delaware and Hudson Company. An accident made it necessary for him to be transferred to station service in 1906 since which time he has been located at Menands.

Although only nine years old when the great conflict between the states broke out, MR. FERGUSON distinctly remembers the scenes which accompanied the recruiting of the 124th N. Y. regiment to war strength and the departure of his cousins to the war. He himself later became a captain in the

124th N. Y. Volunteers, continuing to command a company until the organization was disbanded.

MR. and MRS. FERGUSON now reside at 131½ Pine St., Port Jervis, N. Y., where they are happy to receive their friends of "the good old D. & H." as MR. FERGUSON calls it.

Fifty-Year Veterans at Binghamton Outing



TWENTY-SEVEN Veterans, representing over 1400 years of service with The Delaware and Hudson Company, were present at the Annual Outing held at Binghamton. Left to right, (front row): MARTIN WENCEL, CHARLES RYNDES, HENRY TURNER, SPENCER COURTRIGHT, MILOT SHIFFER, JAMES O'CONNELL, ALEX MESSENGER, CHARLES MORRISON, GEORGE DIMOCK, JASPER GRITMAN, and EDWARD SMYTHE. Second row: JOSEPH WILLCOX, J. GEORGE MCKINNON, JUSTIN SMITH, JOHN BRYDEN, ELWIN SAMPSON, HORATIO WILBUR, GEORGE WESCOTT, CHARLES RECTOR, JOHN MANGAN, TIMOTHY SMITH, EUGENE WONNACOTT, and MARTIN PURCELL. Third Row: PATRICK J. CONNORS, GEORGE LIVINGSTON, HIRAM INCH, and ANDREW CARROLL.

A NOBLE record is five times ten,
A story of smiles and tears,
Mellowed now as with sunset's glow,
Filled with echoes of weal or woe,
Checquered over its ebb and flow,
Glorious Fifty Years.

Lightly lie the fingers of time
On hearts of such railroad men,
With mild content and smile serene,
With heads held high and courageous mien,
They calmly wait for the Great Unseen,
Glorious Fifty Years.

Happy the men who come content
To the dawn of the Silver Age,
With memories that will never die,
Of dear old pals long since passed by,
Yet keen of action and clear of eye
And good for another page.

Not least of all is the happy thought,
It cheers like sparkling wine,
That they're still as good as many who run,
And able to turn in a day well done,
And, peaceful, meet the westering sun
Of each golden day's decline.

Not theirs to stand around and whine,
Not theirs to loll or sit,
While not so quick as in days of yore,
And now and then with muscles sore,
Yet you never catch them behind the door,
Not so you could notice it.

Hats off, to the Vets of Fifty Years!
Three cheers for them! we say,
Through storm and sunshine, joy or pain,
They have done their duty and will again,
Until they board the heavenly train
For the light of a brighter day.

—J. A. CULLEN, in *"Along the Line."*

Modernizing Maintenance of Way

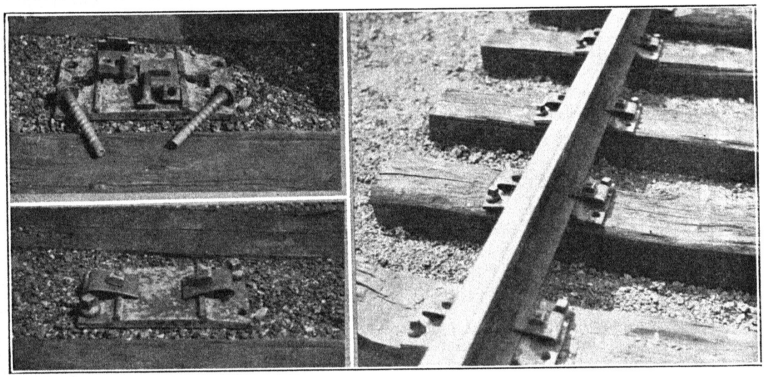
Rock Ballast, New Design of Rail Fastening and Tie Plate, and Motorized Devices For Raising Track and Tamping Ties to Make a Roadbed Second to None

IN order to meet the ever growing demand for a stronger and firmer roadbed, brought about by the introduction of higher scheduled speeds and heavier rolling stock and motive power, the railroads have been experimenting for some time with improvements. One of the outstanding experiments is being carried on by the Pere Marquette which several years ago laid a concrete roadbed for a short distance in one of its main tracks. At first several difficulties arose, the greatest of which was the problem of insulating the rails to insure proper operation of signals, particularly during rainy weather. This fault has since been overcome, and a second section was laid recently embracing all of the improvements designed since the first section was installed, including a noise eliminating feature. Were it not for the high first cost of such roadbed it would probably be the ideal solution of this problem.

A number of the eastern trunk lines, however, have taken a step which is perhaps half way between cinder ballast and concrete roadbeds by using crushed stone in the right of way. This year, due to the transition from anthracite to bituminous fuel for its locomotives, the Delaware and Hudson began to substitute rock for cinders on the main line between Fort Edward and Fort Ann. Since soft coal cinders do not make a satisfactory roadbed, it is expected that crushed stone will soon become standard on the system, the program for the next six years calling for the improvement of approximately 100 miles of track.

For ballasting one mile of single track approximately 3,550 cubic yards of rock is required while to ballast double track line 6,975 cubic yards are used to the mile. Four track miles have already been laid between Valcour and South Junction and two miles between Cooperville and Rouses Point have been completed. Along with the rock ballasting, 130-pound rail is being used to replace the 90-pound section which heretofore has been the Delaware and Hudson standard. This produces a much easier riding track and greater economy in maintenance than it was possible to obtain with 90-pound rail.

Anyone who has watched the passage of a freight train is aware of the movement of the track which takes place as each truck passes over a given point. There is always an up-and-down motion similar to that of a particle of



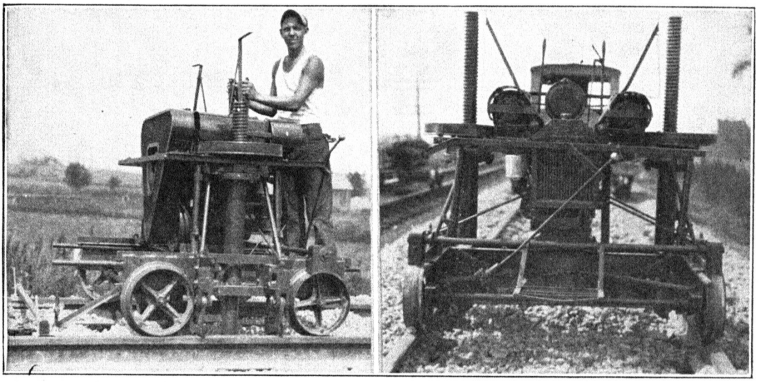
"M and L." Tie Plate, Showing its Parts and as it Looks Installed

water as it rises on the crest of a wave and then drops into the trough which follows.

With light loads a rail could be held tight to a good hard wood tie for a long time by means of a square cut spike. Now, as you watch the rails and ties writhe under the passing wheels it is easy to see why the spikes tend to work loose. Screw-spikes, great lag-screws some six inches long, were resorted to but they only tore great holes in the ties and could not hold the rails fast. Then, too, the narrow base of the rail cut into the tie as the axle loadings of cars and locomotives increased. To overcome this tie-plates of steel having a larger area in contact with the tie than the rails could have were brought into use.

In applying the rock ballast two new machines are being used by the Maintenance of Way forces. The first is a Nordberg Track Jack. In operation, this sturdy device is simple, although in appearance it seems highly complicated. Between the rails there are four heavy clamps, two on each side, with a locking device, which secures the machine to the rails.

The operator stands at the front of his machine, facing backward, on a small platform, so that he has a view of his finished work at all times. This platform also serves as a brake. When depressed, or, in other words, when the operator is standing on it, the brake on each of the four wheels is



Nordberg Track Jack in Raised and Lowered Positions

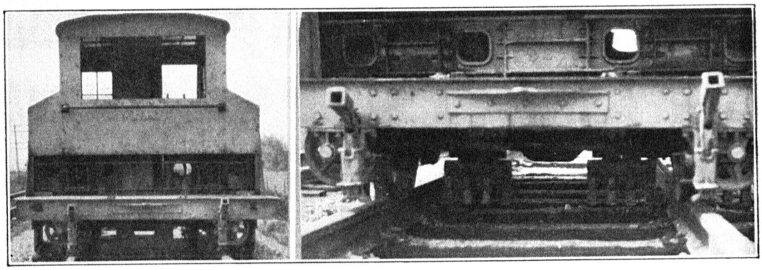
It was then possible to securely anchor the rails to the ties, but the ties jumped up and down so that a smooth, safe, and easily maintained track was still impossible.

Believing that there was no reason why there should be a rigid connection between rail and tie the designers of the "M. & L." plate, now being installed in connection with the 130-pound rail, acted accordingly. The new plate is considerably larger than its predecessors and is secured to the tie by screw-spikes near its outer edges. Spring steel clamps about three inches wide, secured to the tie plates by bolts, grip the base of the rail tightly, at the same time permitting a slight amount of movement during the passage of trains. Thus a flexible yet secure connection is made possible. The use of this new tie plate and rail fastening is expected to considerably reduce track maintenance.

applied. To release it the operator simply shifts his weight to a step on the side.

After the track has been covered with crushed stone, approximately level with the rail head, the track jack clamps on to the rails. The motor, a two-cylinder gasoline engine, is started. The operator pushes back the two levers directly in front of him, setting in motion the three-inch jack screws on either side, which raise and lower a horizontal steel beam extending from rail to rail parallel with the wheel axles. As these screws press the beam downward against the rock, the rails are raised up, permitting the stone to drop in between the ties. The jack is then moved along to the next location where the operation is repeated.

No provision has to be made for moving the machine under its own power as the track which has been raised is higher than that which has



Jackson Track Ballaster, Showing Tampers Between Rails

not, so that the jack is constantly running downhill. When being moved from one location to another it can easily be towed by a light track motor car.

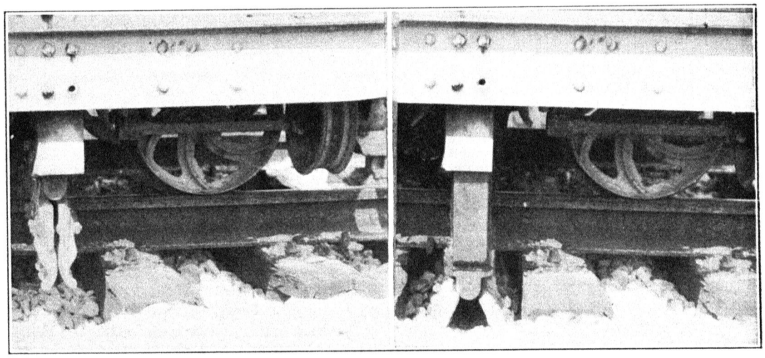
At the rear of the jack is a new feature, a track level which replaces the old wooden hand levels. It rides on the rail at all times while the car is being operated, although it is raised clear while it is being moved to a new location.

In operating condition the car weighs only 1800 pounds. To facilitate rerailing and handling the car, there are two handles on each side and two on the front.

The track jack is followed by a Jackson Power Track Ballaster. The machine, weighing seven tons in working order, is equipped with a four-cylinder gasoline motor which furnishes the power for moving the device as well as the ballasting mechanism. At the front of the car there are four tampers, one on the outside of each rail and two between the rails. They are raised and lowered at the rate of forty blows per minute with a force of 1700 pounds. The tampers are forked so that if they should hit a tie they split outward, breaking the force of the blow.

These tampers force the rock firmly under and between the ties, providing an exceptionally firm roadbed. At the four corners of the machine, directly over the rails, are jacks and wheels to facilitate derailing and rerailing the device. The work of jacking the track and tamping the ballast is a slow operation whether done by hand or machine, and necessitates the slowing up of traffic on the track undergoing repairs.

With the completion of the installation of the new tie plates, 130-pound rail, and rock ballast on the system, the Delaware and Hudson will have a roadbed on a par with any in the country.



Close-up View of Tampers in Raised and Lowered Positions

Veterans Enjoy Ninth Annual Out

LIFE is sweet just because of the friends we have made,
And the things which in common we share.
We want to live on, not because of ourselves
But because of the people who care.
It's the giving and doing for somebody else,
On that, all life's splendor depends.
And the joys of this life, when you sum them all up,
Are found in the making of friends.

Unfortunately the Camera Could See

To renew the old friendships and to add to the number already formed was the avowed purpose of the more than 300 Delaware and Hudson Veterans, their families and friends who gathered for the Ninth Annual Outing and Shore Dinner at the Hotel Arlington in Binghamton, Saturday, September 13th.

That the committee in charge had promised a "bang-up" Shore Dinner (which promise was fulfilled to the letter) did not detract one iota from the anticipation with which the Veterans regarded the event, but it takes more than the promise of a meal—even though it be the best of meals—to bring the average person on a 300 mile trip.

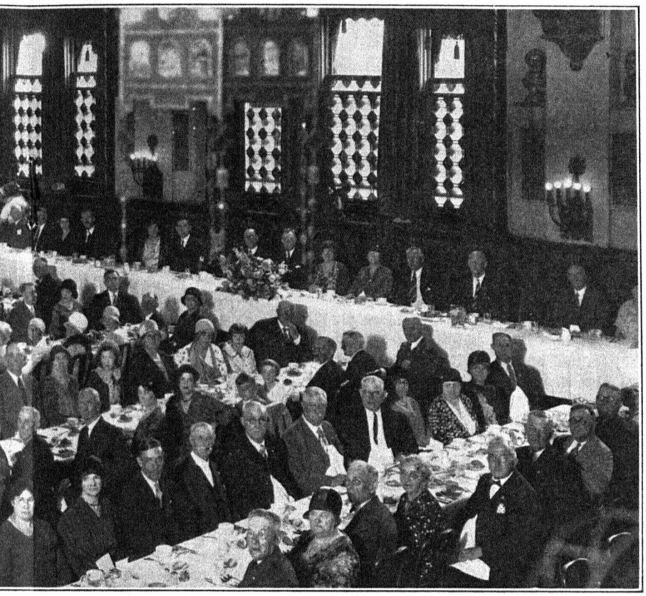
The old ties of fraternity and friendship were stronger than the officers of the organization had dared to hope, especially in view of the selection of the city at the extreme western end of the lines as the meeting place. Special train service augmented by automobiles which conveyed Veterans residing nearby to the scene of the festivities, rolled into Binghamton on time and all arrangements were carried out with such precision that all was in readiness fifteen minutes before one o'clock, at which time the dinner was to be served.

As the orchestra struck up a stirring march the inner man suddenly became of transcending importance and, after singing one verse of *America*, the gathering attacked the steamed clams and broth in a most business-like fashion. JACK WALSH, song leader, rendered one or two excellent solos pending the disposal of the clams, whereupon the Veterans consented to join in singing the old familiar songs.

Roast Philadelphia capon and chestnut dressing, salad, ice cream, coffee, and other edibles having been dispatched, TOASTMASTER N. S. BURNS, of Wilkes-Barre, introduced Herbert Ray, Corporation Counsel of Binghamton, who, in welcoming the Veterans, spoke of the important part the railroad had played in building up Binghamton and making it the prosperous city it now is.

PRESIDENT H. N. ATHERTON responded, thanking Mr. Ray in behalf of the Veterans. E. E. Martin, Vice-President of the Lackawanna Vet-

Outing and Dinner at Binghamton



ra Could See But Half the Guests

erans, brought a message of greeting and good-will from his organization as did C. F. Roth, President of the New England Veterans. Anthony M. Banks, a former Delaware and Hudson man who is now associated with the Interstate Commerce Commission, J. F. Wheeler, President of the Pioneer Dime Bank of Carbondale, Penna., J. H. Paul, President of the Miners and Mechanics Bank of Carbondale and S. G. COBB, former president of the Delaware and Hudson Veterans, also spoke briefly.

Interspersed between the speeches JEREMIAH J. WARREN, Binghamton Trainman, sang *The Irish Jubilee*, and favored with a lively Irish jig which called forth rounds of applause. After remarking that he felt "walled in by eloquence", JOHN H. GILLIGAN, Yardmaster at Carbondale, launched on a humorous discourse which evoked peals of laughter that fairly rocked the Spanish Ballroom in which the banquet was held. Among other things MR. GILLIGAN brought out the fact that Yardmasters are generally known to be men of even dispositions — "always mean and grouchy"!

But time was flitting and there were pictures to be taken and friends to be located so after a few words from their President the Veterans joined in singing *Auld Lang Syne* and prepared to seek the trains which were to carry them on their homeward journey. It was the consensus of opinion that the affair had been run off in most excellent fashion from start to finish and that the committee in charge, comprising MESSRS. H. N. ATHERTON, BUCHANAN CAMPBELL, and E. W. LALOR, was deserving of great credit for the capable manner in which the arrangements had been handled.

Through their officers the Veterans expressed their appreciation of the excellent work of the committee and the cooperation of the management in arranging for special train service for the outing which will go down as one of the most successful events of its kind. The Hotel Arlington management and the people of Binghamton who assisted in publicity and other arrangements also contributed materially to the enjoyment of the Veterans.

"What would your mother say, little boy," demanded the passer-by virtuously, "if she could hear you swear like that?"

"She'd be tickled to death if she could hear it," answered the bad little boy.

"Why?" asked the lady, shocked.

"Why?" exclaimed the boy, "because she's stone deaf!"

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CORPORATION
BULLETIN

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ALBANY, N. Y.

PUBLISHED semi-monthly by The Delaware and Hudson Railroad Corporation, for the information of the men who operate the railroad, in the belief that mutual understanding of the problems we all have to meet will help us to solve them for our mutual welfare.

All communications should be addressed to the Supervisor of Publications, Delaware and Hudson Building, Albany, N. Y.

Vol. 10 **October 15, 1930** **No. 20**

What Are YOU Selling?

IN answer to that question most of us would reply "Nothing," for we are not salesmen. We are railroaders, whether superintendents or switchmen, accountants, clerks, yardmasters, or wipers.

Yet we face the problem of selling something every day. In fact we have two distinct commodities to sell, ourselves and our railroad.

The men who are considered the most successful today are those who have "sold themselves" to their employers or to the world in general, just as the successful businesses of our time are those which have similarly established themselves.

We have all heard folks say that they were "sold" on something—an article or an idea perhaps. That is what is meant by the use of the word here. To be "sold" in this modern sense, slang if you wish, is to be convinced that an idea is sound or that a person or a proposition is worthy of confidence.

So much for the idea, now—how to put it across!

Regardless of the merits and demerits of chain-stores it is generally admitted that they have taught one fundamental law of salesmanship—put your wares out where people can see them.

Many a kind heart has been successfully (?) concealed beneath a gruff manner and much real ability has been hidden by an indifferent attitude. But nowhere do we read of success in life being attained merely as the result of such tactics. A few people of great ability have succeeded in spite of such drawbacks.

What have you got "on the counter" right now? Is it an attractive display that will give the world an idea that you are a good person to do business with? Remembering the new twist to the old saying, "A company is known by the men it keeps," are you a good advertisement for the Delaware and Hudson?

That's something to think about!

Summer in the Winter

NOT so many years ago winter was a serious event in the life of man. During the Autumn months food was gathered and stored, for winter was, to a very great extent, a period of isolation. The refrigerator car and fast freight service were unknown.

Today the winters are no less severe, but the railroads have changed our entire mode of living. No longer do we fill the cellar bins with potatoes and cabbages. There is no need to lay in a store of food in every home, for men are no longer cut off from one another. The railroads with their dependable, all year, all weather service have conquered distance and the seasons.

Fresh fruits and vegetables in solid trainloads rush from the summer of Florida or California into the winter of the East and New England. Strawberries, once a delicacy in June, are in every store in March, and asparagus grown in the Golden State of California is on our tables months ahead of the home-grown article. Fresh vegetables are in the markets all winter long.

All this has been made possible by the marked improvement of our freight service during the past few years. Perishable and high-class freight is today being regularly transported at a speed of 50 to 60 miles an hour. A scheduled freight train has a definite departing time from the initial terminal; an arriving time at the final terminal, with a schedule of placing for delivery to the consignee or to the connecting railroad. Furthermore, the railroads no longer recognize the rigors and obstacles created by winter, but operate their scheduled freight trains with the same dependable regularity obtaining under more favorable operating conditions.

Some future historian writing of the Twentieth Century is going to dwell on the increased health and ability of the peoples of our day, and if he has sufficient insight he will credit the railroads which have brought us health and prosperity through their "Dependable, All-Year, All-Weather Service."—*B. R. & P. Bulletin.*

Stephenson's Engines

His Claim That a Locomotive Would Run Twenty Miles an Hour Caused Him to be Regarded as a Madman

(Continued from last issue)

STEPHENSON did not invent the locomotive engine. That honor belongs to Richard Trevithick, a Cornish mining engineer, who, as far back as 1796, made models of engines adapted to run on roads and, later, on tramway plates. They may be fairly described as stationary engines on wheels, but his crude single-cylinder locomotives formed a starting point from which Blackett, Murray, Hedley and Hackworth built their original engines. Their chief improvements were the employment of two vertical cylinders instead of one, the piston rods being connected to the cranks by grasshopper beams. George examined them all and then built his first locomotive, which was run on the Killingworth Tramway in 1814, but his improvements over previous designs were slight, except that the vertical piston rods were connected by crossbeams to the driving wheels, eliminating the grasshopper beams. By 1822 five of Stephenson's engines were doing good work on colliery tramways.

In 1818 Edward Pease and other enterprising men made application to Parliament to construct "a public railway" from Stockton to Darlington, and George Stephenson was appointed engineer at a salary of £300 per annum. The bill was rejected twice, but it passed in 1821. It was intended to work the line by horse power, but George said that one of his engines was worth fifty horses. Strong objections were made to steam locomotives, but Stephenson invited Mr. Pease to "come over and see my engines at Killingworth. I will show the colliery books and you may ascertain for yourself the actual cost of working. The economy of the locomotive engine is no longer a matter of theory, but a matter of fact."

Pease went to Killingworth and was so satisfied with the performance of the engines that he had a clause inserted in the amended act, taking power to work the railway by locomotives and employ them for hauling passengers as well as freight. George then made a survey of the line, laying out every foot of the ground himself.

The track gage was determined to be 4 feet 8½ inches, as that was the gage of the wheels of the common road and tramway road vehicles of the country. So that when the cars were built to run on rails, they were made to the same gage.

At about this time George Stephenson, in association with Messrs. Pease and Richardson, established a locomotive works at Newcastle, under the name of R. Stephenson & Co. Later the works were moved to Darlington where they are doing a prosperous business today under the name of Robert Stephenson & Co., Ltd.

Notwithstanding the success of Stephenson's locomotives, the public and the press were still in favor of horses. The "Tyne Mercury" of November 16, 1824, had an editorial as follows: "What person would ever think of paying anything to be conveyed from Hexham to Newcastle in something like a coal wagon, upon a dreary wagon way and be dragged by a roaring steam engine?"

In the face of opposition which we cannot understand in these days, the directors ordered three of Stephenson's locomotives against the opening of the railway.

These engines embodied all of Stephenson's improvements. No. 1 engine, named *Locomotion*, had vertical cylinders, parallel motion, and the piston rods connected to four driving wheels four feet in diameter. The wheels were coupled by rods. The cylinders were 10 inches diameter by 24 inches stroke. The exhaust was discharged into the chimney and the draft was so strong that the chimney got red hot. The boiler was 10 feet long by 4 feet diameter, with one flue, giving 60 square feet of heating surface. The weight of engine in working order was about six tons.

When the line was nearing completion, George, with his son Robert, and Dixon, assistant surveyor, dined at one of the inns. After dinner George made a little speech. "Now lads," said he to the two young men, "I venture to tell you that I think you will live to see the day when railways will supersede almost all other methods of conveyance in this country—when mail coaches will go by railway and railroads will become the great highways for the king and all his subjects. The time is coming when it will be cheaper for working men to travel on a railway than to walk on foot. I know there are great and almost insurmountable difficulties to be encountered, but what I have said will come to pass as sure as you now hear me. I only wish I may live to see the day, though that I can scarcely hope for, as I know how slow all human progress is and with

what difficulty I have been able to get the locomotive introduced thus far, notwithstanding my more than ten years' successful experiment at Killingworth." In less than five years George's anticipations were fully realized.

The line was opened September 27, 1825. The train was hauled by *Locomotion* driven by George Stephenson. It consisted of freight and passenger cars crammed with 450 passengers; the total weight of the train was about 90 tons. The train was going about six miles an hour, when presently George "put on the steam" and 12 miles an hour was reached, and then 15. Some of the spectators wondered if the engine moved by lawful means.

This railway was a success from the start. The first year's receipts increased from £7,000 to £15,000 a month.

About this time the commercial men of Liverpool and Manchester were growing restless under the slow and expensive transportation of goods, principally by canal. It sometimes took longer to bring cotton from Liverpool to Manchester, 30 miles, than it had done to bring it from New York to Liverpool by sailing ship. A survey had been attempted in 1821, but never completed, the country people, directed by the canal companies and landed proprietors, turning out to obstruct the surveyors, chasing them from the fields, and smashing their instruments. A second survey was subsequently started by George Stephenson and William James, a surveyor, with Robert Stephenson as assistant. A part of the line would have to be built over Chat Moss, a spongy bog that appeared to have no bottom. Here came stronger opposition than before, George, himself, suffering violence from the land owner's servants and gamekeepers. Some surveying had to be done by moonlight.

When the Bill was in preparation the promoters engaged the most eminent counsel they could get. They were Mr. Serjeant Spankie, Mr. Adam, Mr. Brougham and Mr. Joy. When in consultation with them, Stephenson confidentially stated his expectation that his locomotives would run 20 miles an hour, Mr. Brougham instantly warned him in strong terms. "If," said he, "you do not moderate your views and bring your engine within a reasonable speed, you will damn the whole thing and you, yourself, be regarded as a maniac, fit only for Bedlam."

The Bill then went into the Committee of the House of Commons. The opponents had retained eight of the ablest members of the Bar, among them Mr. Alderson, who was skilled in practical science.

Evidence was taken as to the delays in forwarding goods between the two cities, and Mr. Adam made out a good case for the promoters. But when it came to proving the practicability of employing steam locomotives, the outlook began to look gloomy.

When Stephenson was called into the witness box, he was confronted by the smartest lawyers of the day. This array of forensic talent in their wigs and black gowns disconcerted George, whose speech betrayed him as a north countryman, and whose frank, simple manner excited their sneers and ridicule. George afterwards said that the witness box was the most unpleasant of all positions. "I was not long in it before I began to wish for a hole to creep out at." Provoked by the insulting manners of these gentlemen—one of whom hinted that Mr. Stephenson was a madman, he lost his self-control and affirmed that his engine could go 12 miles an hour. This was seized on by the astute Mr. Alderson, who then made a brilliant speech condemning the whole system of steam locomotion and the promoters became seriously alarmed.

The moment Alderson sat down, Mr. Joy sought to palliate the unfavorable turn their case had taken and proceeded to re-examine Stephenson thus: "With regard," asked Mr. Joy, "to all those er—hypothetical questions of my learned friend, they have been all put on the er—supposition of going 12 miles an hour; now that is not the rate at which, I believe, any of the engines, of which *you* have spoken, have traveled?"

"No," replied George, "except as an experiment for a short distance."

"But what they have gone has been three, five or six miles an hour?"

"Yes."

"So that those er—those *hypothetical* cases of 12 miles an hour do not fall within your general experience?"

"They do not."

This memorable contest extended over two months and the Bill was finally defeated, to George's profound mortification and sorrow, for he thought that he had vitiated his own case.

But the Directors were not defeated. New plans were deposited and a new Bill. The opposition was much weaker and the Bill was finally carried on the third reading by a majority of 88 to 41. It then passed the Lords almost unanimously. The cost of obtaining the Act amounted to £27,000.

George Stephenson was then appointed chief engineer at a salary of £1,000 per annum and he

at once entered on his duties, working day and night.

Chat Moss is a peat bog, about 12 square miles in extent. Leading engineers of Stephenson's day declared that no man in his senses would undertake to build a railway across this vast mass of spongy vegetable pulp, that was incapable of supporting the weight of a man. When drains were cut along each side of the proposed line of railway, the soft pulpy stuff flowed back and refilled them as fast as they were cut.

George then set out to achieve the impossible. His idea was to float a railway on this semi-fluid surface by laying down cross sleepers upon a matting of heath and branches of willow and other trees. In the softest places, gates or hurdles interwoven with heather were laid in double thicknesses, their ends overlapping each other; and on this floating bed a thickness of gravel was spread on which cross ties and rails were laid in the usual manner. In places where there was an excess of water, a few yards of trench were dug at a time, tar barrels were laid down end to end, fastened tightly together and covered with clay, forming underground drains. In some parts, incessant filling had to be done before any indication of a firm road bed appeared.

The directors and everybody else, except George, then lost hope. But he kept saying, "*You must go on filling; there is no other help for it.*" The rest of the line included cuttings, embankments, tunnels and bridges, all of which were planned and carried out under the supervision of George Stephenson. Double sets of laborers were employed, the night shift working by torch and firelight. The road (single track) across Chat Moss was then finished January 1, 1830, and was double tracked shortly afterwards. It has been in constant use from that day to the present.

(To be continued)

Good Advice

A merchant, unable to sleep, tossed fretfully on his bed and muttered unintelligible words. The wife of his bosom sought the cause of his restlessness. In answer to her inquiries he said:

"You should expect me to sleep when my note to my chief creditor comes due tomorrow for $5,000 and there's only $2,000 in the bank to meet it."

"It is?" said the faithful wife. "Then I'll tell you what you should do. You should get up and go over to your creditor's house and tell him and then come back and go to sleep. Let him stay awake."

Thin Skins

THERE is an old saying, "He who hath a thin skin feels every touch a wound," a trait that in this speedy era is a serious handicap.

As he views himself, the "thin-skinned" man is sensitive, or easily hurt, but a psychologist might unkindly diagnose his delicate sensibilities as "amour propre," self love, or pride of opinion.

In the hurried give and take of daily contacts, life goes hard with one who is quick to take offense or unable to show a spirit amenable to correction. To have to guard against wounding these tender egos, wastes time and energy that the busy man can ill afford.

Unless one's work is perfect—and where can such be found?—pointing out shortcomings and mistakes is the only way to improve performance. What justification, therefore, can there be for the attitude that takes criticism with an ill grace?

The man who "bristles up" if attention that appears critical is directed at his efforts, shows a degree of intolerance for the other man's point of view that must seriously limit his own usefulness.

The man who, offering a suggestion that is not adopted, thereupon feels hurt, and sulkily takes it as a personal affront—the ungracious recipient of constructive criticism who "freezes up,"—is ultimately left to go his own way to failure, unchecked.

The "thin-skinned" man is ill-adapted to business, and business cannot, and should not, adapt itself to his idiosyncracies. Manly hardihood can withstand the shocks of life and profit thereby without, on the other hand, developing the impervious hide of a rhinoceros.

The disposition to accept criticism as well-meant and valuable, distinguishes the man whose expanding mind realizes that he has much to learn, from the one whose mind has stopped growing and who, in his own conceit, already "knows it all."

A great philosopher has said, "The purpose of life is the gaining of experience." Those who have something to teach, and those who have something to learn are too greatly absorbed in their work ever to exhibit the foolish touchiness of the "thin-skinned."—*Hammermill Bond.*

"I'se for a five-day week. How 'bout you, Sam?"

Sam: "I'se for a five-day week-end."

British Railway Operation

Ten-Ton Freight Cars, Still Used in England, Criticised and Defended

THE advances made by the American railways in the way of increased tonnage freight cars and more powerful locomotives has placed this country in the lead in railway science. In Europe they have been compared with our method of handling freight. In a recent issue of a London daily, E. R. B. Roberts, formerly chief of train control department of the Buenos Aires Great Southern, is quoted as saying that British railways are fifty years behind the times in the methods of handling freight traffic. They call cars "goods wagons" in England. Mr. Roberts is quoted as saying:

"It is 50 years ago since America introduced 20-ton wagons and by their use effected considerable economies. The British railwaymen at that time pooh-poohed the idea. Today America is running 120-ton trucks, while Britain is still using trucks of 10 tons capacity. The couplings of these 10-ton trucks are not strong enough to admit of a sufficient load being put behind the engine. The engines could draw more, if only they had trucks, which I should suggest should be 45-ton wagons.

"Our British-built engines are hauling in the Argentine 2,000 tons. The average trainload in this country is only 130 tons. A great deal of unnecessary expense and delay are caused by the increasing numbers of privately-owned wagons, which now total over 700,000. The cost of sorting out these vehicles from each other and of hauling them back empty to their owners would be largely avoided if the railway companies owned all the trucks.

"There is a certain amount of pooling among the railway companies and among the colliery companies, but with an ideal system of transport, all trucks would be under one ownership. Private ownership of rolling stock has been practically abolished on the Continent.

"Twenty-ton and forty-ton wagons would mean an economy of 50 and 75 per cent in operating expenses. The grouping of all trucks under the railway companies would mean a further economy, which though impossible actually to estimate, would be considerable.

"It is high time there was something of a revolution in the passenger coaches. The old horse-box compartment, in which you may sit face to face, and knee to knee with a man or woman you have never seen in your life before, are relics of the old stage-coach days. They ought to be done away with. British railways should introduce the open saloon corridor carriage."

In reply to this criticism, W. M. Teesdale, assistant general manager of the London and North-Eastern Railway, said:

"Railways in this country are using small wagons for the sake of speed, instead of following the American practice, where the big wagon often means having to wait for a paying load, thus causing delay.

"Many experiments have been made in the direction of high capacity wagons. In 1903 the North Eastern Railway introduced for mineral traffic a forty-ton coal wagon, and adopted twenty-ton wagons as a standard type.

"It has been found that the forty-ton wagon cannot always be used because the appliances at iron works and docks are not suitable for wagons of such capacity. The Great Northern section, ever since the war, has had traffic wagons from the Peterborough brick works which carry fifty tons of brick—a quantity sufficient to build a whole cottage, 320,000 bricks—on one train. For ordinary merchandise the small wagon has proved to be more satisfactory. It meets the demand of our own country, where consignments are comparatively small as compared with those common in America."—*Railway Journal.*

Sayings of the Great

Be civil to all; sociable to many; familiar with few; friend to one; enemy to none.—*Benjamin Franklin.*

If you would trust men, you must train them.—*Thomas Jefferson.*

The man who cannot think is not an educated man, no matter how many college degrees he may have acquired.—*Henry Ford.*

Genius begins great works, labor alone finishes them.—*Joubert.*

Clicks from the Rails

European Stations

The American traveler arriving in Prague, capital of Czecho-Slovakia, is generally surprised to discover that the name of the main station is President Wilsonavo Nadrazi, in honor of the war-time president of the United States.

For really bizarre effects, the station at Ulm in southern Germany takes the prize. This large and commodious station is painted a bright green, with lilac borders around the doors and windows.

In deference to the fact that Austria is now a republic, they have painted the word "Emperor" from the name of the main station at Vienna, and it is officially "The Franz Josef Bahnof."

* * *

Locusts Again

Although swarms of locusts sufficiently dense to stop trains have been recorded on more than one occasion, still it is rare enough, compared to snow and sand storms, floods, and other obstacles to rail traffic. An instance of this kind occurred recently in Morocco, when a Casablanca-Fez train was delayed at Tizza for two hours by locusts which covered the rails so thickly that the locomotive could not move.

* * *

Long Tunnel Removed

In order to cut down on maintenance costs and to increase the clearance limits, the Chesapeake and Ohio has demolished its 1400-ft. double-track tunnel at Ona, W. Va., substituting a deep cut instead. The cut, said to be the fourth largest in the country, is 300 feet across at the top, and 112 feet deep, the sides sloping upward at a one-to-one pitch. All of the work, which entailed the removal of 700,000 cubic yards of dirt and rock, was done with four Lorain-75, one and one-quarter yard gasoline shovels on caterpillar mountings. After a layer of dirt 16 to 18 feet deep had been removed, the excavators ran into solid rock for the balance of the cut. During the excavating the tunnel was reinforced with timbers and sheathing to eliminate hazards to passing trains. While the final steps were in progress trains were run around on a switch paralleling the main tracks.

Boulder Dam Started

The $165,000,000 Boulder Canyon dam project, for more than ten years the dream of the arid southwest, at last is officially under way. A spike of Nevada silver, sledged into a railroad tie by Secretary of the Interior Ray Lyman Wilbur, started the first of numerous construction steps on September 18.

Secretary Wilbur said to the assembled representatives of six Colorado River basin states: "I have the honor to name this dam after a great engineer, who really started this greatest project of all time—the Hoover Dam."

* * *

Lucky Pup

Recently a small dog got in the way of an electric train on the Atlantic Division of the Pennsylvania Railroad at Westville, and was bowled over clear to the side of the road. Gang Foreman B. W. Kline saw the accident. He went over expecting to see nothing but a carcas to bury, but found the little fellow alive but covered with blood and dirt.

He personally took the canine to a veterinary who found that one limb was broken, besides numerous bruises at various points on the animal's body. The doggie was cleaned up, the leg set in a special splint, and today he is running around at the Westville power plant with the injured limb well on the way to recovery.

* * *

Outlaw Hunter

A real live product of the old Wild West—a man who tracked outlaws from Montana to Mexico and from Wyoming to Mississippi—such was W. E. McCarty, a special agent of the Illinois Central. As a lad in what is now Oklahoma, Mr. McCarty knew the Jennings brothers, notorious outlaws, and in his later career as a special officer for the Union Pacific, the Denver and Rio Grande, and the Texas and Pacific railroads it became his duty to track down many of their kind. With a baggage car as arsenal, stable and headquarters while on the Union Pacific, Mr. McCarty worked under the direction of T. T. Keliher, now chief special agent for the Illinois Central System.

A Strange Coincidence

It wouldn't happen again in a million times—probably not again in a million years. Two ladies accidently exchanged traveling bags in the station at Oakland, Calif. A short time later one of them called up the baggage office to report the fact. She had hardly made her report when a similar call came from another woman. When asked where they each lived it was found that they lived on the same street, the same apartment house, the same floor, directly across a narrow hall from each other. Both had lived there for some time but they never had met before. All that was necessary to correct the difficulty was for each to step to the center of the hall and exchange bags.

* * *

Boo-Boo Causes Toot-Toots

There was a lot of whistling on the Long Island Railroad in Brooklyn recently and Boo-Boo, a milk-wagon horse, was the cause of it all. While his driver tarried, Boo-Boo, milk-wagon in tow, wandered on to the railroad tracks and up an incline where a trestle halted him.

Then a locomotive stopped only inches from his nose. Boo-Boo stared blankly while the engineer whistled for him to move. Finally a policeman arrived, but half an hour had elapsed before Boo-Boo could be backed down the incline, a painstaking process because of danger from the highly-charged third-rail. A string of six trains, delayed by Boo-Boo's walk, whistled angry salutes at him when they again got under way.

* * *

Incubator for Foremen

Although Hanson, Ill., has only a store, a postoffice and one mail route, it is known as an "incubator" of section foremen. This tiny hamlet in the last 33 years has produced twelve section foremen for the Illinois Central and other roads, practically all of whom have been suggested for promotion from gang laborers by James Leach, who has been foreman at Hanson since 1897. Mr. Leach received his own training as foreman under L. A. Downs, now president of the railroad, who was at that time roadmaster on the local division.

The Joy of Life

A GREAT deal of the joy of life consists in doing perfectly, or at least to the best of one's ability, everything which one attempts to do. There is a sense of satisfaction, a pride in surveying such a work, a work which is rounded full exact, complete in all its parts — which the superficial man, who leaves his work in a slovenly, slipshod, half-finished condition, can never know. It is this conscientious completeness which turns work into art. The smallest thing well done, becomes artistic.—*William Matthews.*